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Cell cartons bring ripe peaches to market
Availability of poultry in retail stores

AGRICULTURAL MARKETING SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

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TRANSPORTING BABY CHICKS BY TRUCK



by RUSSELL H. HINDS, JR.

NOT LONG AGO, most baby chicks were moved from the hatchery to the farm almost wholly by parcel post and railway express. Now, they're making the trip mostly by motortruck.

The reason for this shift has been the need for controlled conditions during shipment. Poultrymen demand that their chicks be delivered at a scheduled time and in good condition, and this requires rigid control from the incubator to the farm.

Hatcherymen have found they can successfully transport chicks by truck in all sorts of weather. They do the job with the help of special intake and exhaust fans, heaters, refrigerating units, and load spacers.

Yet, despite this extra equipment, there are still occasional losses from smothering, overheating, chilling, or mishandling of the chicks. Because of these losses, marketing researchers in USDA's Agricultural Marketing Service have surveyed methods and equipment used to transport chicks by truck.

Chicks move to the farm in all sorts of vehicles—anything from station wagons to tractor-trailers. The type of truck varies with the size of the hatchery, length of the haul, size

of the shipment, and the type of chick. Most popular are walk-in vans, conventional cab and body trucks, and modified school buses.

Some trucks are specifically designed for transporting chicks, but most of them are stock models modified by hatcherymen.

In moving his chicks by truck, the hatcheryman has a chance to pay personal attention to the chicks' comfort. Chicks can't stand unusually high or low temperatures. They do best when the temperature is around 90° F. and when they have sufficient fresh air.

Ventilation appears to be the most important factor in successful chick transportation. It must provide a continuous flow of fresh air around each chick box. This is necessary to give the chicks enough oxygen and to remove carbon dioxide.

To keep the chicks at a proper temperature, some hatcherymen use a heating system during cold weather. In extreme hot regions, refrigerating systems are often installed.

In many cases it's difficult to operate all of this extra equipment off the truck's electrical system. Overloading frequently causes damage to or failure of the generator, voltage regulator, or battery.

Additional electrical current may be provided by replacing the generator with a heavy-duty generator or

alternator, or by installing a separate gas-powered electric generating unit.

Handling and stacking also play an important part in successfully transporting baby chicks by truck. Boxes must be attached and spaced properly to allow free air movement around the chicks.

It's not easy to recommend a single type of truck for hauling chicks because conditions vary in different parts of the country. However, marketing researchers have listed certain basic features. They are:

1. A driver's compartment connected to, and not separated from, the chick cargo area.
2. Location of the fresh air intake high above the driver's cab.
3. Air distribution systems in which the air enters the cargo area from floor racks or through holes in a false floor.
4. Fans or blowers to circulate air, especially when the truck is not in motion.
5. A means for cooling or heating the air in those regions which experience extremes of temperature.
6. Stacking methods in the truck which allow free air movement around each chick box.

A soon-to-be-published marketing research report—"Baby Chick Transportation Problems and Equipment"—discusses each of these items more fully.

The author is a marketing specialist in the Marketing Research Division of AMS.

Sanitation Requirements Important under Continuous Inspection for Processed Fruits and Vegetables

by F. L. SOUTHERLAND

The processor who uses this service pays a fee for it. The cost is relatively small—usually no more than a cent or two per case of canned food.

Processed fruits and vegetables that wear this shield give consumers the assurance that they are getting products that are clean and wholesome.



IN GROCERY stores all over the nation some processed fruits and vegetables—frozen, canned, and dried—are wearing a little shield-shaped mark which states “Packed Under Continuous Inspection of the U. S. Department of Agriculture.”

Just as the USDA meat inspection and poultry inspection insignia assure consumers that these products are clean and wholesome, the USDA continuous inspection statement gives them the same assurance for processed fruits and vegetables.

The statement, which may be used alone or enclosed in an outline shield, means that the processor has a plant, equipment, and operating methods which meet USDA requirements and that he is packing a good quality product.

This is one of several inspection services offered by the Processed Products Standardization and Inspection Branch of AMS's Fruit and Vegetable Division.

Continuous inspection means exactly that. A Federal inspector (or inspectors) is stationed in the plant at all times when processing is going on. He checks the plant and equipment for sanitation; keeps constant watch on the quality of the raw materials being used; and, during and after the processing and packing operations, he selects samples to inspect for quality.

The inspector prepares a daily report for the plant management, summarizing his observations and including a probable grade for each lot packed. When inspection of the finished product is completed, he issues certificates showing the final grade of each lot packed.

Processors using this type of inspection service may, if they choose, label their product with its U. S. grade as well as the continuous inspection statement. If they pack a product for which there is no U. S. grade, they may use the continuous inspection statement provided the product is

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one of good quality as determined by USDA and if all the requirements of continuous inspection are met.

The processor who uses this service pays a fee for it. The cost is relatively small—usually no more than a cent or two per case of canned food.

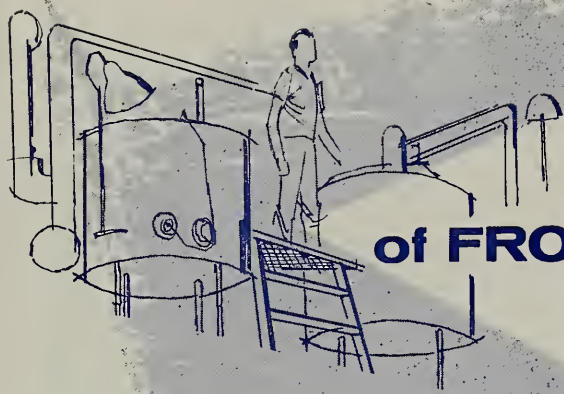
To qualify for continuous inspection service, the processing plant meets rigid requirements for construction, equipment, and sanitation. In addition, there are requirements as to lighting, ventilation, supplies of potable water (both hot and cold), plant construction, facilities, operating procedures, and plant premises.

Before service is granted a processor, an official examination of his plant is made to make sure that it meets all of these requirements. If the application is approved, the processor signs a contract agreeing, among other things, to use only sound raw material which has been handled and stored under sanitary conditions, to keep his plant in sanitary condition, and to submit for approval any labels bearing the continuous inspection statement.

Continuous inspection has been available to the processor of frozen, canned, or dried fruits and vegetables—and related products such as frozen fried fish sticks—for 20 years. A canner in Traverse City, Mich., became the first user in 1939. This plant is still operating under the continuous inspection program.

In the past 20 years, the service has grown considerably. It now accounts for approximately half of the inspections performed by the Processed Products Standardization and Inspection Branch. A large number of California processors are using the service, and nearly all of Florida's citrus products are packed under continuous inspection.

These processors—and the many others using the continuous inspection service—believe that it is sound marketing practice to use this method of telling the consumer that their products merit her confidence and her dollars.



Household Purchases

of FROZEN CONCENTRATED ORANGE JUICE



by CLIVE E. JOHNSON

ORANGE JUICE—sold in frozen concentrated form—is far and away the most popular of all fruit and vegetable drinks in this country.

Last year more than 300 million gallons of fresh orange juice were concentrated, packed, and frozen. Of this, 273 million gallons (single-strength basis) went into 6- and 12-ounce cans for household consumption; the rest was purchased for institutional and export use.

Only tomato juice came within counting distance of this competition. And household purchases of tomato juice were only a fourth as great as orange juice purchases.

This widespread popularity of frozen concentrated orange juice is no surprise to the industry. But some of the facts turned up in an AMS-sponsored survey may not be as well-known.

Economists in the Marketing Research Division of AMS, using data supplied by a consumer panel of 6,000 families, have analyzed the purchase pattern of frozen concentrated orange juice.

They've found, for instance, that purchases vary but little with the seasons, and that the proportion of families buying orange juice has been about the same since 1954.

Price fluctuations seem to be about the only thing that cause the purchase pattern to show slight rises and dips. The average buying family



tends to buy a little less frozen concentrated orange juice when the price goes up and a little more when it goes down.

Although the overall purchase pattern of frozen concentrated orange juice doesn't show much variation, there's a lot of difference in the amount of juice bought in the various geographic regions. Per capita purchases vary widely from one part of the country to another and from rural to urban areas.

Last year, during a 6-month period, per capita purchases ranged from 15 4-ounce servings in the South to 40 servings in the Northeast. The Nation's average was 28.

Similarly, city families buy more orange juice than rural families. Purchases amounted to 10 servings per person in the rural areas, 19 in cities under 10,000 population, and 41 servings in metropolitan areas of 500,000 or more.

Many things play a part in determining who buys frozen concentrated

orange juice and in what quantities. Families in the high-income group averaged 36 servings during April-September 1957; those in the lowest income group purchased an average of 18 servings.

More orange juice was bought by families with teenagers, by families with college backgrounds, and by those where the housewife is between 35 and 44 years old, than by other groups.

All told, 15 million American families bought 121 million cans of concentrated frozen orange juice each month in 1957. This is in addition to the purchases made at corner drug stores and by institutions, such as hospitals and restaurants.

Until recently, frozen concentrated orange juice has been less expensive than either canned or fresh juice. In March 1958 a 4-ounce serving prepared from the frozen concentrated product cost 3.5 cents; a serving from fresh Florida oranges cost 4.3 cents.

Since the freezes in Florida in late 1957 and early 1958, however, the concentrated juice has been a little more expensive than the canned juice but is still less than fresh juice. Prices paid for concentrate rose sharply from December 1957 to March 1958—nearly 1 cent per serving.

Purchases, nevertheless, have remained surprisingly high—the average family buying the product purchased about 41 servings in March compared with 45 in December. There was but small decline in the proportion of families buying the juice.

The author is an economist in the Marketing Research Division of AMS.

CELL CARTONS bring flavorful ripe peaches to consumers

by JOHN L. GINN

PREPACKAGED peaches—flavorful and tree-ripened—are now moving to an increasing number of consumers.

Because of this growing interest in prepackaging, Agricultural Marketing Service has been studying the various types of containers used by the peach industry. One such study makes a comparison between prepackaged peaches in celled cartons and peaches shipped in bulk containers.

In 14 test shipments examined by AMS, the prepackaged fruit came through marketing channels with less bruising than bulk peaches packed in conventional $\frac{3}{4}$ -bushel baskets—even though the cartoned fruit was riper at the time of shipment.

This better protection afforded by the celled cartons was apparent both at the terminal market and at the retail store.

The AMS study which pointed up this better packing method was conducted in 7 packing plants in the Carolinas. For testing purposes, loads containing both bulk and prepackaged peaches were shipped from these plants to New England and Midwestern markets.

Tree-ripened peaches in consumer units were packed for shipment in two types of master containers—wire-bound boxes and combination fiber-board-veneer containers. Less mature peaches were bulk-packed in $\frac{3}{4}$ -bushel baskets.

Materials and labor costs for prepackaging peaches were twice as high as for bulk packing in the $\frac{3}{4}$ -bushel baskets. The master shipping containers packed with 16 cartons of peaches cost the shipper about \$1.17 for materials and direct labor. For an equivalent amount of peaches bulk-packed in baskets, these costs ran about 58 cents.

But, premium prices to shippers and grower-shippers for the better quality fruit—prepackaged and shipped in the master containers—more than covered their extra costs.

At the terminal markets, AMS economists found that, when properly stacked, all three types of shipping containers came through in good condition. More bruising, however, was noticed in bulk than prepackaged fruit.

The size of the peaches in the cartons also made a difference in the extent of bruising. There was more injury to the fruit in the 8-cell cartons than in the 10-cell units. This was true for cartons packed in both types of shipping containers.

Consumer reaction to the riper, prepackaged peaches was obtained from 2,769 housewives who answered questionnaire cards inserted in the cartons. Responses were extremely favorable. About 92 percent said they liked the better flavor of the riper peaches. Eighty-eight percent commented on their fine quality.

The chief objection to the cartons was that the peaches were difficult to remove; 40 percent complained of this.

Because of the fine condition in which prepackaged peaches reach the market and the generally favorable reaction of produce men and consumers, more and more firm ripe peaches are being shipped in cartons from Atlantic Coast packing plants. During the 1957 season, 34,000 master containers of cartoned peaches went to markets across the country. This supply, however, was not always sufficient to meet consumer demands.

Hurrying to get out more orders, some packers were not careful enough in grading out peaches that were too hard or too ripe for proper prepackaging. This lack of care showed up in the consumer replies. Peaches from these shippers did not receive the extremely high percentage of favorable comments given those from plants which maintained quality control.

Prepackaged peaches, like most other highly perishable commodities, must be packed under rigid standards. If a premium price is to be received for this fruit, the fruit itself must be of premium quality.

The author is an agricultural economist in the Marketing Research Division, AMS.



Availability of *Poultry* in RETAIL FOOD STORES

by ROBERT W. ALLEWELT and MARDY MYERS



THE CONSUMER has only a 50-50 chance of finding fresh broilers and fryers available at his neighborhood independent retail food store. And his chances are only slightly better at chains with from 2 to 10 units.

Other poultry meats—frozen broilers and fryers, fresh and frozen stewing and other chickens, and turkeys—are handled by less than half of the retail stores, excluding chains having 11 or more stores.

According to a nationwide survey conducted late in 1956 by the Market Development Branch of AMS, the poultry industry is overlooking a large segment of its potential markets. Poultry, in general, is not being handled in a good many small stores. There is also room for expansion in certain parts of the country and in small towns and rural areas.

Only 54 percent of the stores surveyed made fresh broilers and fryers available to their customers. The proportion of stores handling these products varied only slightly in different regions of the country. Availability, however, was somewhat greater in large cities than in small towns and rural areas.

The percentage of stores handling fresh broilers and fryers increased significantly with the size of the store. Some 41 percent of the stores with annual sales of less than \$25,000

stocked these products while all stores with annual sales of \$500,000 or more sold fresh broilers and fryers.

Nearly all of the stores stocking fresh broilers and fryers handled these birds the year-round, but only 60 percent of these stores sold them throughout the week. Stores that handled fresh broilers and fryers only on certain days usually offered them on Fridays and Saturdays.

Some stores selling fresh broilers and fryers received the poultry from more than one source. Over half dealt with processors, 42 percent with wholesale distributors or jobbers, and 13 percent bought directly from farms.

Interestingly enough, 15 percent of the independent grocery stores that did not handle fresh red meat handled fresh broilers and fryers. Of course, a much higher percentage—71 percent—of the grocery stores selling fresh red meats also sold fresh broilers and fryers.

Although all the specialized egg and poultry markets and 81 percent of the meat markets made fresh broilers and fryers available, these outlets reported much lower availability of the frozen product.

Frozen broilers and fryers were carried by 36 percent of the stores surveyed. For these products, regional availability varied considerably. Only 28 percent of the stores in the South stocked frozen broilers and fryers while 61 percent sold these prod-

ucts in the West.

Nearly all the stores selling frozen broilers and fryers made these items available every day of the week. About 64 percent of these stores indicated distributors or jobbers as their source of supply; processors supplied 29 percent.

About 34 percent of the stores across the Nation (excluding larger chains) stocked fresh stewing and other chickens and 15 percent frozen chickens. Regionally, stores in the South reported the lowest availability of stewing and other chickens.

In contrast to broilers and fryers and stewing and other chickens, frozen turkeys were slightly more available than the fresh items.

Fresh turkeys were found in 23 percent of the food stores surveyed. In the South only 13 percent of the stores handled fresh turkeys while around 30 percent in other regions stocked this product. More stores offered fresh turkeys to consumers as the size of the town and the size of the store increased. Stores with annual sales of less than \$25,000 averaged 12 percent availability while 52 percent of the stores with annual sales over \$100,000 sold the product.

A definite seasonality was noted in the availability of turkeys. About half of the stores handling fresh turkeys sold them only during the holiday periods of the fourth quarter of the year. The rest of the stores had year-round availability.

The authors are staff members of the Marketing Research Division, AMS.

BIGGER MARKETS MEAN BIGGER FREEZER



Power conveyors are used in modern wholesale plants to pack out mixed orders.



Forklift truck moves pallet load of frozen food into truck trailer.

by H. WAYNE BITTING

EACH YEAR—from 1950 to 1956—the frozen food industry has increased its output nearly a billion pounds, according to the Agricultural Marketing Service. In 1956 the industry was producing 9 billion pounds of frozen meats, fruits and vegetables, soups, seafoods, fancy desserts, foreign dishes, and prepared meals.

The growth of this industry has differed from that of other food processing enterprises in two distinct ways. The frozen food industry has required heavy capital investments at every step in the marketing system, from producer to consumer. It has also required extra care in maintaining below-zero temperatures to keep the products in top condition.

In this fast-moving industry, marketing problems have grown just about as fast as the industry itself.

The frozen food industry in the beginning required a whole new procedure for buying, handling, and selling. And, no sooner had this procedure been established than it had

to be changed. New varieties of fruits and vegetables were developed for freezing. New and better methods of quick freezing were perfected. New packaging material was called for and delivered. And an unbroken chain of below-zero storage had to be developed.

Today, the frozen food industry has become a mass marketing operation calling for a constant supply of products of uniform quality. To hold on to sales, the same brand of frozen food must taste the same in California in July as it does in Maine in December. Standardized quality calls for costly, specialized production, processing, and handling methods. It also requires a big investment by consumers in freezer equipment.

From the processing plant to the kitchen, more than \$5 billion have been invested in buildings, machinery, trucks and trains, warehouse facilities, retail storage equipment, and home refrigeration.

The consumer is the biggest investor in the frozen food industry. He has put \$1.8 billion into home freezers—and this does not include the money that has been spent for refrigerators with freezer space.

The investment in the processing of frozen foods amounts to about \$1 billion. Facilities for zero-degree warehousing, refrigerated truck trailers, and frozen food lockers require an investment of \$500 million each.

The wholesale distributors' investment runs to \$462 million, and bulk storage and display cabinets in retail stores add up to \$400 million. Investment in mechanically refrigerated railroad cars comes to another \$93 million.

All of this investment in the frozen food industry is necessary to produce and maintain top-quality products. That the quality of these products be sustained is a major aim of the industry.

Frozen food processors seek uniform quality through grower contracts that spell out product specifications. Occasionally, the processor produces his own fruits and vegetables.

Large retail buying units also aim to standardize quality through contract arrangements, and in some cases they, too, enter into processing and production.

Mass merchandising has brought about more contract growing and increased integration of production and

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VESTMENTS FOR FOODS



Processors use giant refrigerated compartments for quick-freezing.



Refrigeration units on delivery trailers maintain zero-degree temperatures.



Retailers need lots of deep-freeze cabinets for frozen items.



Refrigerated railroad cars bring frozen food to wholesale plant.

Automatic device puts measured quantity of peas in package.



Some wholesale houses store frozen food items in deep-freeze units.

handling operations. Large-scale marketing has led to the growth of bigger production units and greater specialization on the part of growers. In this way, the grower, too, has increased investments. Whether he will continue to finance himself, or whether this responsibility will be taken over in large measure by some other unit in the marketing chain, remains to be seen.

Big retail units are now doing more of their buying directly from the processor on a short-term basis, and this is resulting in a shift of long-term storage from terminal markets to the processing areas.

At the retail level, a larger number of frozen food firms are competing for limited display space. This may well bring about mergers at the packing level as well as other changes in the marketing system.

Large-volume, low-margin distribution of frozen foods will mean a tougher job for new firms and new items entering the business. And, as the frozen food industry becomes bigger and costlier, efficiency in operation will be at a premium.

A more detailed report on this study can be obtained from the author.



The awkward position of the bin and box (left) makes it necessary for the packer to twist and turn as she place-packs each handful of oranges. The roll-board station (right), which puts both fruit and box directly in front of the worker, eliminates this turning and reduces packing time one fourth.

Improved Efficiency in Packing Fresh Citrus

by **EARL K. BOWMAN**
and **GILBERT E. YOST**

PLACE-PACKING fresh oranges and grapefruit can be done more easily and more quickly with a new packing station constructed and tested by AMS engineers.

Part of a research program to increase efficiency in both citrus and vegetable packinghouses, the new method places both the fruit and the packing box directly in front of the packer. In this way, the packer doesn't have to twist or stretch to move the fruit from the bin to the shipping crate, and packing time is reduced almost a fourth.

Place-packing has long been the practice of the Florida citrus industry. Each year three-fourths of its fresh crop receives this special hand-pack treatment.

Place-packing, however, is a costly and time-consuming process. It requires a packer to manually place about 216 oranges, for example, in a specified pattern, layer-by-layer, in each shipping container.

As the job is now being done in Florida packinghouses, the worker stands facing the shipping crate. The sizer belt that brings the fruit to the station is at her side. In this position, the packer must move her hands back and forth in a 90-degree arc to remove the oranges from the bin and pack them in the 1 $\frac{3}{5}$ -bushel container. She must also bend down to reach into the bin.

Although the number of times this movement is performed in filling each container varies with the grasp of the worker and the size of the fruit, an average packer moves about 3 pieces of fruit each time.

Not much can be done about the number of oranges or grapefruit moved at each sweep of the packer's hands. However, the distance of this sweep can be shortened and the bending eliminated.

Here's where the AMS-constructed packing station proves its worth. It does away with the entire turning and twisting motion. Both the fruit and the box are placed in front of the packer. A roll-board station deposits the fruit at just the right level so the packer can easily move the oranges or grapefruit quickly into the packing

case. Thus, both effort and time are reduced for the packing operation.

A model of the new packing station, large enough for tests with one packer, was built by AMS engineers at the University of Florida. Basic features of the model originated from work done by Dr. Roy Smith and associates of the Agricultural Experiment Station, University of California. Trials were run on a laboratory basis in the training packinghouse of the University of Florida, using both oranges and grapefruit, and some changes were made in the model.

Later, it was tested with oranges in a commercial Florida packinghouse. Here, an experienced packer found that she could fill a 1 $\frac{3}{5}$ -bushel wirebound box of fruit much easier and quicker using the roll-board station than the conventional twist-and-turn method. The box was place-packed in 20 to 30 percent less time, and the packer commented that the work was a lot easier.

Figuring only a 20-percent saving in labor requirements, about \$300,000 could be saved annually by the Florida citrus industry if it put into commercial use the AMS method of place-packing fresh oranges and grapefruit.

The authors are staff members of the Marketing Research Division, AMS, stationed in Gainesville, Fla.

LUNCH PROGRAMS IN U.S. PUBLIC SCHOOLS

Of the 33 million pupils in the U. S. public schools, 68 percent, or 22 million, attended schools in which the National School Lunch Program was in operation.

by KENNETH E. ANDERSON

MANY U. S. children are now eating bigger and better school lunches. In recent years, there has been a significant swing to school feeding programs.

Much of the credit goes to the National School Lunch Program. Under this program, Federal funds are provided to assist the States in operating school lunches in accordance with recognized nutritional standards.

In March of last year, AMS marketing researchers conducted a survey of the Nation's schools to find out how many schools and how many pupils took part in the National School Lunch Program. They also examined the factors that influenced this participation.

The study showed that about half the public elementary and secondary schools in the country participated in the program. Nearly all of these schools received surplus agricultural commodities. And, almost 75 percent of the food used in the program was purchased from local merchants.

The number of schools taking part in the program varied in different parts of the country. Participation was highest in the Southeast where over two-thirds of the schools were in the program. It was lowest in the Midwest; only about a third of the schools in this area participated.

School lunches were not available in about 40 percent of the Nation's

schools. However, these schools accounted for only 20 percent of the total U. S. school enrollment.

Of the 33 million pupils in the U. S. public schools, 68 percent, or 22 million, attended schools in which the National School Lunch Program was in operation. On an average daily basis, however, only 10 million pupils participated in the program.

Another 3 million children were in schools that offered other plate lunch programs, and, of these, about 1 million used the service.

In all, a third of the 33 million children in public schools participated in some type of plate lunch program.

There are many reasons why some

schools had more children eating plate lunches than others. The price of the meals had a lot to do with the number who bought their lunches. As might be expected, more children participated when low-priced meals were served. More children also bought their lunches in schools where the faculty and student body ate together and where many of the children came to school by bus.

Modern lunchrooms also attracted children to the lunch program.

The availability of commercial eating places near the school and the seating capacity and location of the lunchroom within the school building appeared to have little effect on the popularity of the lunch program.

Advance announcement of the menus, however, seemed to have made quite a difference. Where a list of upcoming meals was posted or sent home to the parents, the children could be selective and as a result fewer participated.

Federal assistance for school lunches first became available in the early 1930's. In 1935 this program was accelerated, and in 1946 assistance was put on a permanent basis when the National School Lunch Act became effective.

Nearly all of the public schools participating in the National School Lunch Program received surplus agricultural commodities. And, almost 75 percent of the food was purchased from local merchants.



The author is an agricultural economist in the Marketing Research Division of AMS.



AMS Tests Market for New Rice Product

Instant rice, a new product developed by the USDA Western Utilization Laboratory, recently went on trial for 19 weeks in 46 Fresno, Calif., supermarkets.

Although consumer response was varied, there was enough interest, both on the part of the housewives and the store managers, to warrant taking another look at the product.

The product was labeled and marketed under the name of Insta Rice, a name chosen for research purposes only. (It is not a brand name.)

An easy-to-prepare, precooked, and canned rice—the product was market-tested by the Marketing Research Division of AMS. The California rice industry provided the

funds for preparing and promoting the product. Personnel of the Laboratory acted as technical consultants in all phases of the market test.

In 24 of the stores, sales were audited for Insta Rice and 7 other rice products.

During the test, about 8,000 cans of the new product were sold. It accounted for 13 percent of each week's sales of prepared rice.

Sales, however, varied widely among the stores. Insta Rice proved most popular in stores with customers in the medium-income bracket. Stores in which demonstrators gave out samples of fried Insta Rice also reported a good sales volume.

Ten weeks after the test started, AMS researchers surveyed a number of homemakers. They found that a fourth of those in the Fresno area were aware of the product. Of this group, about 1 in 3 had bought some.

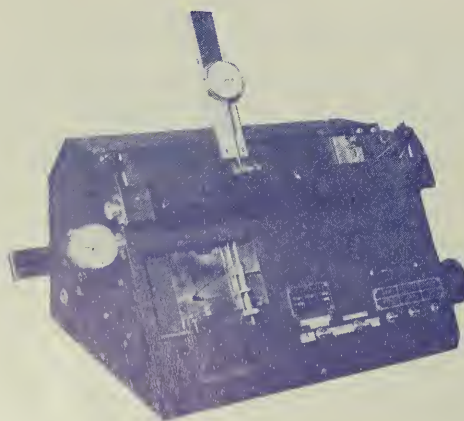
A majority of those who tried Insta

Rice liked its taste and thought it cooked just as well as other rices. About 1 in 4 felt the cooking instructions should be changed. Some homemakers said they had trouble getting the rice out of the can.

Almost everyone was satisfied with the size of the can, which provided from 3 to 5 servings. They also didn't seem to feel the product was too expensive. A few, however, said they saw the product in the stores but didn't buy it because of the price.

From this study of both the sales position and the consumer reaction to Insta Rice, marketing research specialists in AMS foresee commercial possibilities for this new rice product—particularly as an additional item for established canners. In this way, there would be only modest outlays of capital for plant and equipment and the costs of processing and selling could be spread over a multi-product line.

Dial Gauges Improve Cotton Fibrograph Instruments



by JOSEPH T. ROUSE

TO COMBINE speed and accuracy in measuring cotton fiber length, specialists of the Agricultural Marketing Service have modified the Fi-

brograph instruments which electronically scan cotton samples.

In use since the early 1940's, the Fibrograph offers a comparatively fast and reliable method of measuring fiber length and length uniformity. Unfortunately, it does not provide the detailed information obtainable by the older, time-consuming array methods.

By adding dial gauges to the Fibrograph instrument, cotton technologists are able to obtain both a speedy test and reproducible length and uniformity information. What they did was to replace the Fibrogram recording mechanism with two dial gauges. One of these dials measures the length of the fiber and the other the relative number of fibers.

Tests show that it takes no longer

to operate the instrument with the dials than with the Fibrogram. And, the dials give much more accurate length and uniformity readings.

Yet, despite these improvements in the Fibrograph instrument, AMS marketing researchers do not consider it to be the ultimate method in measuring cotton fiber length. They visualize still further improvements, such as push-button control, automatic computers, and mechanical preparation of the test specimen. But until such improvements materialize, the dial method is the best available. It provides a better combination of speed of testing and accuracy of results than can be obtained by other available methods.

Mr. Rouse is a cotton technologist in the Marketing Research Division of AMS.

FOOD DONATIONS TO NEEDY PEOPLE



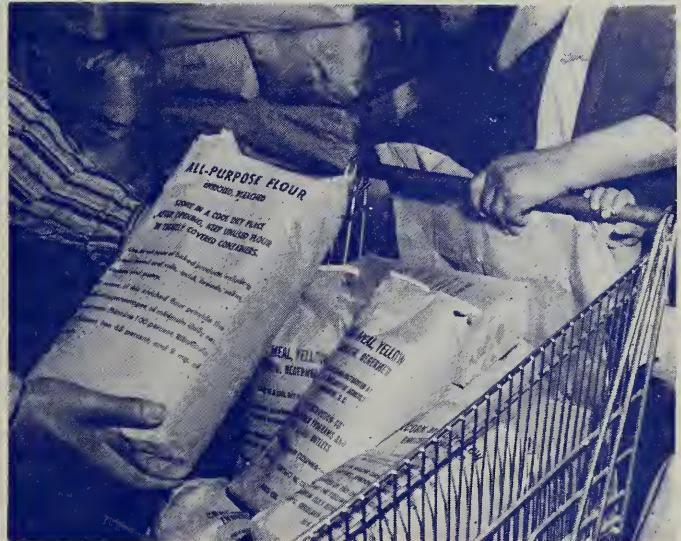
This picture story shows how surplus foods are distributed to needy persons through AMS's direct distribution program. First, as shown here in District of Columbia, applicant gives informaton to clerk.



If applicant is found on investigation to meet the standards of eligibility, a "food card" is prepared and mailed to the recipient. From the food card ledgers, clerk computes needs for a day's distribution.



Recipient takes food card to distribution center, is assigned turn.



For one month, a family of six gets this much of these surplus foods.



After picking up her allotment, recipient "checks out," signing her food card to acknowledge receipt of the proper amount of each food.



Then recipients carry food to their homes. These scenes are typical of operation of the program in the other 45 States now participating.

DAIRY INDUSTRY IN TRANSITION

The South Atlantic and the West were the only regions that consistently gained an increasing proportion of the United States total milk output.

This is the second of three articles that describe the changes taking place in the U. S. dairy industry. This month Herbert C. Kriesel reviews region-to-region shifts in production and utilization of milk. The first article, in the June issue, covered the impact of industry changes on production and marketing of dairy products. In the August issue, Mr. Kriesel will relate all of these changes to dairy processing and distribution.

Changes in the size and location of the fluid milk consuming population, in cost patterns on dairy farms, and in consumer's demand for dairy products have contributed to a gradual shift in the regional pattern of milk marketing in the past 30 years.

As some markets have gained in population and as the outlets for butter have declined, certain milk marketing areas have shown production gains while others have shown losses.

In Florida, for example, as population increased from 2 million in 1940 to 4 million in 1957, milk production increased from 3.4 billion to 5.5 billion pounds. Many deficit producing areas, such as Florida, ship in milk when local supplies do not meet their needs. The opposite would be true for an area where population has declined significantly and a milk surplus has developed.

Loss of market outlets for a factory product is best illustrated by butter

manufacture in States of the West North Central region. These States have been the largest producers of creamery butter, and much of their output has been from farm-separated cream. But, as the market for butter has dwindled, so have outlets for both farm- and factory-separated cream.

Partly as a result of this, many dairymen in these States have shifted to other types of farming—usually to production of meat animals or some cash crop, such as corn, soybeans, or small grains. A clincher in the dairymen's decision, moreover, may have been that dairying is much more confining than most other farm enterprises.

Prices received by farmers for milk vary from region to region, mainly reflecting differing production conditions. In the Great Lakes dairy belt, for example, these milk prices are lower than in most other sections. Southern Idaho and northern Utah is also a lower-price area.

The highest prices to dairy producers are in the extreme Southeast. In Florida, the average price received by farmers for milk last year was \$6.60 per hundredweight compared to an average of \$3.25 in Minnesota.

Regional changes in production in the past 30 years have been moderate, though significant. The South Atlantic and the West were the only regions that consistently gained an increasing proportion of U. S. total milk output. Their proportions of the total in 1957 stood at 7.5 and 12.1 percent, respectively. The East North

Central region has continued to increase output. Its proportion of the U. S. total has run just under 30 percent in the last several years.

Output in the North Atlantic region has fluctuated slightly over the years but has been maintained at a little over 17 percent of the U. S. total. The West North Central region has experienced the most persistent drop. In 1925 and 1935, it contributed about 25.5 percent of U. S. production, dropped to 23.8 percent in 1945, and to 21.7 percent in 1955. Last year it was 21.9 percent.

Ranked by States, Wisconsin has been the top milk producer for many years and has accounted for an increased proportion of the U. S. total in the last several years—10.8 percent in 1935, 13.4 percent in 1955, and 13.8 percent in 1957. New York and Minnesota tied for second last year, with 7.6 percent of U. S. output. In 1925 they each accounted for 7.7 percent. California's production last year was 6.1 percent of the U. S. total, compared with 3.9 percent in 1925. Pennsylvania and Iowa each accounted for 5.1 percent last year, a gain for Pennsylvania but a loss for Iowa compared with 30 years ago.

Changes in the form in which local milk is marketed to consumers—as fluid milk or as a manufactured product such as cheese, butter, or ice cream—are dictated by much the same forces that affect farmers' marketing and production changes. In areas of rapid population growth, more fluid milk is needed and the output

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Part 2

by HERBERT C. KRIESEL

of factory products is decreasing.

In California, where population doubled from 1940 to 1957, milk production increased about 28 percent—from 6.9 billion to 8.8 billion pounds. Because population increased more than production, the proportion of California's milk supply used in factory products dropped from one-half in 1940 to about one-third in 1957.

In contrast, the fluid milk production of the Midwest exceeds the requirements of the population, and output of factory products is large. In 1955, the East North Central region channeled 57 percent of its milk output into factory products, and the West North Central, 70 percent of its output. The two regions together produced nearly 70 percent of total U. S. manufactured dairy products in 1955. The proportion of milk output in the East North Central States used in factory production in 1955 was lower than at any other five-year interval, beginning with 1930. The West North Central States, despite the drop in importance of butter, channeled somewhat more of their output to factory products in 1955 than in other recent years, though it was a little below the 1940 level.

The Mountain States in 1955 used 53 percent of their milk output in manufactured products, though the region accounted for only 4 percent of total U. S. production of manufactured dairy items. The proportion of Idaho milk output going into factory products was the highest for any State—77 percent.



Farm scenes like this are common in the Midwest where dairying receives the benefits of well distributed rainfall and heavy forage, a minimum of intense summer heat, and enough trained workers.

Despite the sharp decline in volume of butter made in the U. S., the relative importance of different regions in the production of butter has changed only moderately. East North Central States in 1955 accounted for 26.7 percent of U. S. output, and West North Central States, 54.9 percent.

Changes in production among regions have been more pronounced for cheese than for butter. The East North Central States from 1930 to 1955 declined from 70 to 60 percent of total U. S. output. In the same period the West North Central States increased their proportion of U. S. cheese output from 4.3 to 14.9 percent. The South Central States also gained, from 2.6 percent to 8.9 percent. The Mid-Atlantic States dropped from 12.2 percent in 1930 to 6.7 percent in 1955.

The highest concentration of milk output going into a single manufactured product continues to be in the West North Central States. In 1955 these States used 56.5 percent of their milk supply in butter making. The East North Central region in 1955

used 20 percent of its milk output for butter, and 22.3 percent for cheese.

Among States, Nebraska in 1955 had the highest concentration of milk output for any one manufactured product—70 percent for butter.

Milk use patterns will continue to be influenced by changes in consumer demands for dairy products, in location of the fluid milk consuming population, and by the cost of producing milk. Always an unknown in any speculation about specific trends is the absence of information on innovations that would make it practical to process whole milk for interstate shipment and eventual use in fluid form. The possibility of perfecting such a process adds to the many other imponderables that confront an interpreter of past trends in production and utilization patterns for milk among regions.

Milk production in the first 5 months of 1958 showed virtually no increase over a year earlier, after increasing substantially in those months the 2 preceding years.

NAMO (Atlantic States Division)

DELEGATES to the annual Spring meeting of the Atlantic States Division of the National Association of Marketing Officials elected John Winfield of North Carolina chairman for the coming year and John Rainey of Pennsylvania, secretary.

Warren W. Oley of New Jersey, outgoing chairman, and Benjamin P. Storrs, Connecticut, alternated in presiding over the meetings.

Considerable attention was given by the delegates to the need for State promotional programs, with emphasis on fruits, vegetables and potatoes, and on poultry and eggs. Representing 19 States, the delegates studied closely the presentation by Gerald E. Zich of New Jersey's developing promotional program for poultry and eggs.

John Rainey, Pennsylvania, told the group that more information should be put out concerning the successful promotional efforts of the States. He suggested those States engaging in promotion programs acquaint marketing people in other States with the operation and results of their programs. He also questioned whether there might be danger in erecting State barriers to the flow of products from other States by too heavily pushing a State Seal of Quality program.

Fay Gaylord, Indiana, pointed out that a Seal of Quality program keeps quality and standards up, and results in out-of-State products meeting these

standards. He said that a Seal of Quality is sometimes put on products when a majority, but not all, of them are grown in the State.

Hermon I. Miller discussed with the group the problems posed by the mandatory poultry inspection program, and how States can work out their solutions. In the same area, Kenneth Brasfield told the delegates how existing plants can be remodeled to meet the requirements of mandatory poultry inspection. He illustrated his talk with colored slides showing details of the operation.

Miller and Brasfield are with Agricultural Marketing Service.

Arthur Martin, Maryland, substituting for John E. Mahoney, posed the problem of "pot scalders." He commented that it is difficult to regulate the operations of processors who use culls rejected by plants processing poultry for interstate shipment to process for intrastate use.

Dr. Harold B. Hodson, Georgia, speaking for Boyce Dyer, described some of the problems his State is encountering in retooling its tremendous broiler industry to meet the demands of mandatory inspection.

Both Federal and State representatives probed the future needs for marketing information. S.R. Newell and C.D. Schoolcraft, both of AMS, discussed the continually changing conditions that demand comparable changes in techniques in reporting

stocks and movement of farm commodities, and in reporting market news generally. Addressing themselves to the problem at shipping point, Wesley Windisch, Ohio, covered grain and livestock; Curtis Tarleton, North Carolina, covered poultry and eggs; and J.B. Owen, Florida, covered vegetables, emphasizing Florida's tomato planting report.

W.C. Crow and W.H. Elliott, both of AMS, spoke on the future of terminal markets and on the possibilities of saving labor in marketing.

L.G. Foster, AMS, was assisted by George H. Chick, Maine, J.E. Youngblood, South Carolina, and J.H. Meek, Virginia, in developing the theme of "States' Responsibility for Success in Developing Adequate Marketing Service Programs."

Roy W. Lennartson, AMS Deputy Administrator for Marketing Services, welcomed the group and introduced Assistant Secretary Don Paarlberg.

Mr. Paarlberg, noting the competitive drive that has contributed to the increasing efficiency of the American marketing system, reminded the group that one-third of the world today still denies the institution of the competitive market.

Oris V. Wells, AMS Administrator, told the marketing officials that in their work they are confronted with three sets of puzzles: Prosperity without inflation, economies of scale, and continuing overabundant production.